



# SEQUENCE LISTING

<110> Phagotech, Inc.  
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<120> DNA SEQUENCES FROM STAPHYLOCOCCUS AUREUS BACTERIOPHAGE 44 AHJD  
THAT ENCODE ANTI-MICROBIAL POLYPEPTIDES

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<140> 09/727,892

<141> 2000-12-01

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<170> PatentIn version 3.0

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<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

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ttaaaatctg cagaagaaaa tgaacacaca ttaaaaatga aagaggctac tatttttagcc 420  
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<211> 1944  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

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aattcaaaat catattatga ttatatattca agattatcaa aactaattga agtatttagca 180  
cgtcgtatattt gggactatga caatgaatta aaaaaacgtt tcaaaaattg ggacgactta 240  
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 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

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 tatgggcgct ttaatgtatg gcttggtggt aatgaaagta aaatcagaca agtattaaaa 180  
 gcagtaaaag agataggtgt ttcacctact ctttttgccg tatatgaaaa aaatgagggg 240  
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 gctaaattca tagcaagaaa gttagtatca caatcaaac aagctggaca accgtcttgg 360  
 tatgacgcag gtaacatcgt ccactttgta ccacaagacg tacaagaaa aggtaatgca 420  
 gatthttgcaa aaaatatgaa agcaggtaca attggacgtg catatatcc attaacagca 480  
 gctgctactt gggcggcata ttatccttta ggthtgaaag catcatataa caaagtacaa 540  
 aactatggta atccattttt agacggtgcg aatactattc tagcttgggg tggtaaatta 600

gacggtaaag gtggatcacc tagtgattcg tctgacagtg gtagtagtgg tgacagtggg 660  
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 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

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 gatatagatt attatatatc tttttcaaac cgttctgatg gaaaatcggt caactatggt 180  
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 gataaagaaa ttggtgtgat tacagatttg aatagtgcc aatgatttaa atatcattct 420

aacttttttaa aacactatcc tattattata tatgatgagt ttttagcact tgaagatgat 480  
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aaacgtaaca cacgtgcggt taattcaaata gacgacgcta tgacaactgg agaatttgaa 780  
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<210> 7  
<211> 1227  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

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gcgttacaag attttaatca tgattattca aaatcttgga catttggcga caaatgggat 120  
aattcaaata caatgttcga aacatttgta aataaatatt tattccctaa gattaatgag 180  
actttattaa tcgatattgc attaggtaat cgttttaatt ggtagctaa agagcaagat 240  
tttattggac aatatagtga agaatacgtg attatggaca cagtaccaat taacatggac 300  
ttatctaaaa atgaggaatt aatgttgaaa cgtaattatc cacgtatggc aactaagtta 360  
tatggtaacg gaattgtgaa gaaacaaaaa ttcacattaa acaacaatga tacacgtttc 420  
aatttccaaa cattagcaga cgcaactaat tacgcttttag gtgtatacaa aaagaaaatt 480  
tctgatatta atgtattaga agaaaaagaa atgcgtgcaa tgtagttga ttactcattg 540

aatcaattat ccgaaacaaa tgtacgtaaa gcaacatcaa aagaagattt agcaagcaaa 600  
 gtttttgaag caatcctaaa cttacaaaac aacagtgtga aatataatga agtacatcgt 660  
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 gtatctaaac ttaaagagtt tactggcaac gttgaagaaa ttaaaccaaa atcagattta 1020  
 tatgcgttta ttttgatat taattcaatt aaatataaac gttacacaaa aggtatgtta 1080  
 aaaccaccat tccataaccc tgaatttgat gaagttacac actggattca ttactattca 1140  
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 <213> Staphylococcus aureus Bacteriophage 44 AHJD

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 ctactaatca actataccaa tcgtgatacg gttggtatag attttattca gttagaatca 180  
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 gttgtcatgc aaaataaacc aattcaatat aatagtata tagaaattat agaacattat 480  
 actgatgaat tagcagaagt tgctttatct cgcttttctt taatcatgca agcaaaattt 540  
 agcaagatat ttaaatacaga aattaatgac gagtcaatca atcaacttgt gtccgaaata 600

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gatttaacaa gtaatagcgt aatcccagca ttaactgaaa tgaaacggga atatcaaaac 720  
aaaattagtg aattaagtaa ctatttaggc attaattcat tagccgttga taaagaaagc 780  
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<211> 756  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

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caaaaaatgc tgaagttcga caaagacggt ttagctatcg ttaatgaaaa agtattttaa 180  
ggtttttcat tgaaagatga attatcagat ttacttttta aaaaatcatt tacgattcat 240  
tttttagata gagaaatcaa cagacaaaca gttgaagcat ttggcatgca agtgattact 300  
gtatgtatta cacatgagga ttatttaaatt gtgggtttatt catcaagtga agttgaaaaa 360  
tacttacaat cacaaggctt cacagaacac aatgaagata caacaagtaa cactgatgaa 420  
acatcgaatc aaaatgctac atcttttagac aattcaactg gcatgactgc aaacagaaac 480  
gcttatgtgt cattaccaca aagtgagggt aacattgatg ttgataatac aacggttacga 540  
ttcgctgata ataatacgat tgataacggt aaaactgtga ataaatcgag taacgaaagt 600  
aatcaaaacg caaaacgtaa tcaaaatcaa aaaggtaatg caaaaggtag acaattcact 660  
aagcagtatt taattgataa tattgataaa gcgtacgatt taagaaagaa aatttttaaat 720  
gaatttgata aaaaatgttt ttacaaatt tggtag 756

<210> 10  
 <211> 753  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 10  
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 ttgatgggtg catatggatt tcaatgtatg gacttatcag ttgcttatgt gtattacatt 120  
 actgacggta aagttcgcac gtgggggtaac gctaaagacg cgataaataa tgactttaaa 180  
 ggttttagcga cgggtgtataa aaatacaccg agctttaaac ctcaattagg ggacgttgct 240  
 gtatatacaa atggacaata tggacatatt caatgtgtgt taagtggaaa tcttgattat 300  
 tatacatgct tagaacaaaa ctggtttaggc ggcggttttg acggttgga aaaagcaacc 360  
 attagaacac attattatga cgggtgtaact cactttatta gacctaaatt ttcaggtagt 420  
 aatagcaaag cattagaaac atcaaaagta aatacatttg gaaaatggaa acgaaaccaa 480  
 tacggcacat attatagaaa tgaaaatggc acatttacat gtgggtttttt accaatattt 540  
 gcacgtgtcg gtagtccaaa attatcagaa cctaattggc attggttcca accaaacggc 600  
 tatacaccat ataacgaagt ttgtttatca gatggttacg tatggattgg ttataactgg 660  
 caaggcacac gttattattt accagtgcgc caatggaatg gaaaaacagg taatagttac 720  
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<210> 11  
 <211> 483  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 11  
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 caagaaaaag atttattttt aaatgatttt agtaatgtta attttaaatt tgatgataaa 120  
 gatttacaag aggcgtacat tgacacatgg aaacattttg cacatctgcc ctattttcct 180  
 aaagaaagaa acgtatcata tgtaaatgct gtatcattgg taagagggtc aagacataaa 240  
 aaattaaatt atattcttga aatatataac cgtaatgatg attctaataa taaaaacgct 300  
 aaaaagcata aatacgcttt atataattta caagctaaaa ataataattc ttcaatgtat 360  
 aaatatatta aagaaatcga tactttatat aaagaaattg gtaaatcaga tagaccagt 420

acaaatattg atgatgaaga tgtgaggtat aactttttat attatgcaac atttgacgaa 480  
taa 483

<210> 12  
<211> 369  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 12  
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gaggaaaaag aaagagaatt tatcaaacta tcagaattag tagaaaaata cggtatgaaa 120  
aaagagtata tcgtttagagc attattcaca aacaaagaat caaaattcgg tgaacaaggt 180  
gttatcgtca ctgatgacta taacgtaaac ttaccgaacc acttaacaga attaattaaa 240  
gaaatgagag cagatgagga cggtgttgac attatcaatg ctggagaagt tcaattcaca 300  
atttatgaat atgaaaacaa aaaaggtcaa aaaggttact caatcaattt tgggtcaagta 360  
tcatttttaa 369

<210> 13  
<211> 423  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 13  
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ggggatttaa aattactcta ctttttattt gtattaatgt tcggtgatat tattacaggt 120  
atttcaaaag caattaaaaa taataactta tgggtcaaaaa aatcaatgag aggattttct 180  
aaaaaattat tgatattctg tattatcatt ttagcaaaca tcattgacca gattttacaa 240  
ttaaaggtg gtctactcat gattacaata ttttattata ttgcaaata gggactttct 300  
attgtagaaa attgtgcaga aatggacgta ttagtaccag aacaaattaa agataaatta 360  
agagtcatta aaaatgatac tgaaaagagt gataacaatg aacgatcaag agaagataga 420  
taa 423

<210> 14  
 <211> 411  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 14  
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 gattattata atgataaatt tgaaaaatth acttcatcta ataaaaaatg tatagtaaaa 120  
 ataaatatgg gtgatgtgta tattgagttt gacaaacaat atgatgattt tgaaattgaa 180  
 aaagagttat ttacgttaga tatcgacatt gatattaaaa aacatgtttt taatatactt 240  
 gtattttatt atagaaatta ttttaagtaat gaattaataa gagaaatttt attaaacgtt 300  
 acaattgacg acgtattatc aaattttgat aaacctcttg aaagcgaatt aatgattatt 360  
 tatcaaaaca aagtcataata cgataatggg aaagtgattg accatgaata a 411

<210> 15  
 <211> 279  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 15  
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 aattatcaga acctaattggc tattgggttcc aaccaaacgg ttatacacca tataacgaag 120  
 tttgtttatc agatgggttac gtatggattg gttataactg gcaaggcaca cgttattatt 180  
 taccagtgcg ccaatggaat ggaaaaacag gtaatagtta cagtgttggt attccttggg 240  
 ggggtgttctc ataatgggta ttttagcctt tttctttga 279

<210> 16  
 <211> 243  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 16  
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 atatactctt ttttcatacc gtatttttct actaattctg atagtttgat aaattctctt 120  
 tctttttcct caaattcaaa tctcgctaata gtgttttggt gtcttgataa aatatctttt 180

acgtttgtca ttttatttct cctcttattt aaattatttg ctttctgcaa ttgcgatttg 240  
tag 243

<210> 17  
<211> 237  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 17  
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gatgataatg aatacattga ggaattttta ccacttcacg agtatcattt aaccaaaca 120  
caagcaaaag aattattacc agacacatgt aaactattgt ccactacacg cacaacgaaa 180  
acaattcaag tttattacaa tgatttacta caaatcgcaa ttgcagaaag caataa 237

<210> 18  
<211> 222  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 18  
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attttgaaac ctttgtacgt gaacaattct ttgacgggtgc cattattgaa aacaataaaa 120  
gtatctataa tgagcaagggt acaatatoga tatatccgtc taaaactgaa attgtatgtg 180  
gtaatgtata tgatgaatat tttactgatg aacttaatat ga 222

<210> 19  
<211> 213  
<212> DNA  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 19  
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tgctcttttag ctaaccaatt aaaacgatta cctaagcaa tatcgattaa taaagtctca 120  
ttaatcttag ggaataaata tttatttaca aatgtttcga acattgtatt tgaattatcc 180  
catttgctgc caaatgtcca agattttgaa taa 213

<210> 20  
 <211> 207  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 20  
 atgttacctg gtttgtataa gtattctttt ttgaataaag gtacaccaat tgctttttta 60  
 tatttttctg gtaactgtgc atatgtccag ttaccaccaa tcacacgacc actttttcca 120  
 tttggcttga ctgatttacc actaattggg ttatgggtctc cgtcatcatc agtaggatta 180  
 gaactactac tcccactatc tacttga 207

<210> 21  
 <211> 189  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 21  
 atgtctaaac gattttgttt taccatgttt ttgctccttg taatagttaa tgatgtcggt 60  
 tacagtgtta aattttattcg tcaaattgtt cataatataa aaagttatac ctcacatctt 120  
 catcatcaat atttgtcact ggtctatctg atttaccaat ttctttatat aaagtatcga 180  
 tttctttaa 189

<210> 22  
 <211> 183  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 22  
 atgcaccatc aaagtcaaca cctgccccct catgcttata tatccattct tttgcttggt 60  
 gttgtgattt catttatatc actcctatct ttgatgtttt gctaccaaac catattcacg 120  
 atgttttggt tccgcattaa cattactgaa gaattcttta tattccgata tattagcctc 180  
 taa 183

017.176341.1

<210> 23  
 <211> 144  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 23  
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 ttttttgacc ataagttatt atttttaatt gcttttgaaa tacctgtaat aatatcaacg 120  
 aacattaata caaataaaaa gtag 144

<210> 24  
 <211> 180  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 24  
 atgagaacac cccccaagga ataccaacac tgtaactatt acctgttttt ccattccatt 60  
 ggcgcactgg taaataataa cgtgtgcctt gccagttata accaatccat acgtaaccat 120  
 ctgataaaca aacttcgtta tatggtgtat aaccgttttg ttggaaccaa tagccattag 180

<210> 25  
 <211> 177  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 25  
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 tcatttaaaa ataaatcttt ttcttgctct tttctagctt ctctttcttt tttccatcta 120  
 tccatttcag acgtatgtct aaccaatggt atcaacctcc atataaagca taaataa 177

<210> 26  
 <211> 177  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 26  
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 catcaaactt caatgtttga agatttatat gacgctaaag ttgtatattc atattatgaa 120  
 tataacctgt tcactaaaaa atacgcgtat atcatagaat acattaagga gatataa 177

<210> 27  
 <211> 168  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 27  
 atgaataacc tattaacat agccattggt ttccttttag catttttaac tacacttatt 60  
 atacttatga cactgcatat acgcgtgtca ttggtgttt tattcactac attgattata 120  
 ttctatatta tctttttaac ggttatttat gcttttatat gaggttga 168

<210> 28  
 <211> 165  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 28  
 atgattgtct atatccctaa ttttagtaca aaattcatat tgttttgtat atggtacaac 60  
 gataatattt gtcataaaag tagttacatt atacatgact ttaatatatt tatcatcagt 120  
 ttgatatag aagaaatcac cgttttgatt gatgtgattt cttaa 165

<210> 29  
 <211> 165  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 29  
 atggaatata tgcacgtcca attgtacctg ctttcatatt ttttgcaaaa tctgcattac 60  
 cttttctttg tacgtcttgt ggtacaaagt ggacgatgtt acctgcgtca taccaagacg 120  
 gttgtccagc ttgttttgat tgtgatacta actttcttgc tatga 165

<210> 30  
 <211> 165  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 30  
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 attttccaca tcaaattctca atgtttgaag atttatatga cgctaaagtt gtatattcat 120  
 attatgaata taacctgttc actaaaaaat acgcgtatat catag 165

<210> 31  
 <211> 162  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 31  
 gtgaataaaa caccaaatga cacgcgtata tgcagtgtca taagtatgat aagtgttaatt 60  
 aaaaatgcta aaaggaaaac aatggctatg tttaataggt tattcatggg caatcacttt 120  
 cccattatcg tatatgactt tgttttgata aataatcatt aa 162

<210> 32  
 <211> 153  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 32  
 atgatattgt atagttcatt gttatcatct aaacggaata agttaaaatg tgaacgtaat 60  
 gcaggatagc catataatcc atttaaaacg acttttagata acataacctc ctcatttgag 120  
 tatgggtggt cgttgatata atcagtaatg tga 153

<210> 33  
 <211> 150  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 33  
 atggcttggt ttgctaaagc gagtagtgaa ctaccactgt caccactact accactgtca 60  
 gacgaatcac taggtgatcc acctttaccg tctaatttac caccccaagc tagaatagta 120  
 ttcgcaccgt ctaaaaatgg attaccatag 150

<210> 34  
 <211> 150  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 34  
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 aaaattttct ttcttaaata gtacgcttta tcaatattat caattaaata ctgcttagtg 120  
 aattgtgtac cttttgcatt acctttttga 150

<210> 35  
 <211> 147  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 35  
 atgatgattc taataataaa aacgctaaaa agcataaata cgctttatat aatttacaag 60  
 ctaaaaataa taattcttca atgtataaat atattaaaga aatcgatact ttatataaag 120  
 aaattggtaa atcagataga ccagtga 147

<210> 36  
 <211> 147  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 36  
 atgcaacatt tgacgaataa atttaacact gtaaacgaca tcataaacta ttacaaggag 60  
 caaaaacatg gtaaaacaaa atcgttttaga catggtaaga gattatcaaa atgctgtcaa 120  
 tcatgtcaga aaaaaaatcc cagataa 147

<210> 37  
 <211> 147  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 37  
 gtgtatacaa taccacacgt gatggtgcaa catatggtgg tacattatag tttgcaacta 60  
 aaaacgaacc atcttcaaaa actgctacaa caacacctgt gtgaccaata ccatatgcag 120  
 ttgcttgtaa gtatggtggt ttactag 147

<210> 38  
 <211> 144  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 38  
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 aactcaatat acacatcacc catatattatt ttactatac attttttatt agatgaagta 120  
 aatttttcaa atttatcatt ataa 144

<210> 39  
 <211> 144  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 39  
 gtgtaccttt tgcattacct ttttgatttt gattacgttt tgcgttttga ttactttcgt 60  
 tactcgattt attcacagtt ttaccgttat caatcgattt attatcagcg aatcgtaacg 120  
 ttgtattatc aacatcaatg ttaa 144

<210> 40  
 <211> 141  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 40  
 gtgctgtatt tacttatgat gtatctaaac ttaaagagtt tactggcaac gttgaagaaa 60  
 ttaaaccaaa atcagattta tatgcgttta ttttggatat taattcaatt aaatataaac 120  
 gttacacaaa aggtatgtta a 141

<210> 41  
 <211> 138  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 41  
 gtggtaactg gacatatgca cagttaccag aaaaatataa aaaagcaatt ggtgtacctt 60  
 tattcaaaaa agaatactta tacaaccag gtaacatatt tcctcaaacg ggtaatgcag 120  
 gacaatgtac agaattaa 138

<210> 42  
 <211> 138  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 42  
 atgtcgtcaa ctttcattat tatatcactc ctttctaaaa aacgtaaacg ttatacgttt 60  
 cataaaatcc tttatgcata ttccattgtt ctattgggtc atcaccagca atataagaca 120  
 atattgattc tggtttag 138

<210> 43  
 <211> 138  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 43  
 atgcacgacc gtcgtctttt gttaatttat agttttgtga acctcttgcg cgtaatgctt 60  
 caaagtgttc atactacca agttggaaga aaccatataa attatggaaa cgttttccac 120  
 caccgccgtt tgtcatag 138

<210> 44  
 <211> 138  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 44  
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 tggattgacg ttctaaccg attgttgtac catgaccacc ctgtacaata cgcattgctt 120  
 aaattaagtc accactag 138

<210> 45  
 <211> 135  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 45  
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 gatatttata ttttag 135

<210> 46  
 <211> 129  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 46  
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 gcgtttttcg gtataccagc agaagcaatt ttaatctttc cattcacttc atatgcatat 120  
 ttcttatga 129

007299-001001

<210> 47  
 <211> 129  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 47  
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 aagagcctga gggatatttc atttatacaa atccaaaaac aaaacgtaaa tcggtattac 120  
 ttgctatga 129

<210> 48  
 <211> 129  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 48  
 atgaatgtat gtaagttggt caggtgtgag ttttgcaaaa catttcacag catagtcata 60  
 ggcttcacta tcattcatat cattatcttt atcaaaaatc gtataattaa aatctgtttt 120  
 aagttgtga 129

<210> 49  
 <211> 129  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 49  
 atgaggacgt tgttgacatt atcaatgctg gagaagttca attcacaatt tatgaatatg 60  
 aaaacaaaaa aggtcaaaaa gggtactcaa tcaattttgg tcaagtatca tttaataca 120  
 atttcatag 129

<210> 50  
 <211> 126  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 50  
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 ttgcttatgt gtattacatt actgacggta aagttcgcac gtggggtaat gctaaagacg 120  
 cgataa 126

<210> 51  
 <211> 126  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 51  
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 aaagtcttga tgtattcatt ttatgctttt gtaataaatt gtatatattt aaattggata 120  
 atatag 126

<210> 52  
 <211> 123  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 52  
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 taa 123

<210> 53  
 <211> 123  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 53  
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 acacatggaa acatttttgca catctgccct attttcctaa agaaagaaac gtatcatatg 120  
 taa 123

<210> 54  
 <211> 120  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 54  
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 acaatgaaga tacaacaagt aacactgatg aaacatcgaa tcaaaatgct acatcttttag 120

<210> 55  
 <211> 120  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 55  
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 ttaagttacg tacaaaatca attattgggtt atcataatga agttcgagta tatccagtag 120

<210> 56  
 <211> 117  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 56  
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 aaaattcctc aatgtattca ttatcatcat ctaagtaatg aagtatataa cctttga 117

<210> 57  
 <211> 114  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 57  
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 aaaaagtggg tgcatgggtta cgtgtgtcaa gtggtaacgc agtcggtgaa gtaa 114

<210> 58  
 <211> 111  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 58  
 atgtaccacc atatgttgca ccatcacgtg tggatttgta tacactcatt aatggcgtac 60  
 caaataatgc tggtgataat attgtattct ttagtggtat tgcttaatta a 111

<210> 59  
 <211> 111  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 59  
 atgcataatt cttatgattc agtacaaaca tcttatctat ctgttcgttt tcaatatccc 60



<210> 64  
 <211> 105  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 64  
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 aactaccact gtcaccacta ctaccactgt cagacgaatc actag 105

<210> 65  
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tcaactgaag aatcaactga agataaaaca gtagaaacaa tcgaagaaga aaatgaaaac 180  
aaattagaac ctactacaac agatgaagat agttcgaaat ttgaccctgt tgtattagaa 240  
caacgtattg cttcattaga acaacaagtg actacttttt tatcttcaca aatgcaacaa 300  
ccacaacaag tacaacaaac acaatcagat gtaacagaat caaacaaga agataacgac 360  
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ttatcggctt gccacaact attattaaac tataatagtt ctggtgttca attcttaaatt 180  
gatgaactaa acaacgaaac taaaccagaa tcaatattgt cttatattgc tggatgatgac 240  
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gatgaaattg aagattttaa tcataattct gttttacgcg taatttcaac tttattagga 180  
agtgataata atggttaa 198

<210> 71  
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Arg	Lys	Lys	Pro	Thr	Lys	Tyr	Lys	Asn	Val	Thr	Tyr	Ser	Val	Ala	Ile
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Lys	Tyr	Asp	Asn	His	Phe	Leu	Leu	Lys	Asp	Thr	Met	Arg	Tyr	Phe	Asp
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Val	Ile	Leu	Glu	Lys	Arg	Val	Lys	Ser	Ser	Ile	Asn	Leu	Asp	Leu	Thr
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Met	Phe	Leu	Asn	Gly	Phe	Lys	Phe	Asn	Ile	Ile	Asp	Asn	Phe	Met	Lys
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Thr	Asn	Thr	Ser	Ile	Ala	Thr	Leu	Gly	Lys	Lys	Leu	Leu	Asp	Gly	Gly
			180					185					190		
Tyr	Leu	Thr	Glu	Ser	Gln	Leu	Lys	Thr	Asp	Phe	Asn	Tyr	Thr	Ile	Phe
		195					200					205			
Asp	Lys	Asp	Asn	Asp	Met	Asn	Asp	Ser	Glu	Ala	Tyr	Asp	Tyr	Ala	Val
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Lys	Cys	Phe	Ala	Lys	Leu	Thr	Pro	Glu	Gln	Leu	Thr	Tyr	Ile	His	Asn
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Asp	Val	Ile	Ile	Leu	Gly	Met	Cys	His	Ile	His	Tyr	Ser	Asp	Ile	Phe	245	250	255
Pro	Asn	Phe	Asp	Tyr	Asn	Lys	Leu	Thr	Phe	Ser	Leu	Asn	Ile	Met	Glu	260	265	270
Ser	Tyr	Leu	Asn	Asn	Glu	Met	Thr	Arg	Phe	Gln	Leu	Leu	Asn	Gln	Tyr	275	280	285
Gln	Asp	Ile	Lys	Ile	Ser	Tyr	Thr	His	Tyr	His	Phe	His	Asp	Met	Asn	290	295	300
Phe	Tyr	Asp	Tyr	Ile	Lys	Ser	Phe	Tyr	Arg	Gly	Gly	Leu	Asn	Met	Tyr	305	310	315
Asn	Thr	Lys	Tyr	Ile	Asn	Lys	Leu	Ile	Asp	Glu	Pro	Cys	Phe	Ser	Ile	325	330	335
Asp	Ile	Asn	Ser	Ser	Tyr	Pro	Tyr	Val	Met	Tyr	His	Glu	Lys	Ile	Pro	340	345	350
Thr	Trp	Leu	Tyr	Phe	Tyr	Glu	His	Tyr	Ser	Glu	Pro	Thr	Leu	Ile	Pro	355	360	365
Thr	Phe	Leu	Asp	Asp	Asp	Asn	Tyr	Phe	Ser	Leu	Tyr	Lys	Ile	Asp	Lys	370	375	380
Asp	Val	Phe	Asn	Asp	Asp	Leu	Leu	Ile	Lys	Ile	Lys	Ser	Arg	Val	Leu	385	390	395
Arg	Gln	Met	Ile	Val	Lys	Tyr	Tyr	Asn	Asn	Asp	Asn	Asp	Tyr	Val	Asn	405	410	415
Ile	Asn	Thr	Asn	Thr	Leu	Arg	Met	Ile	Gln	Asp	Ile	Thr	Gly	Ile	Asp	420	425	430
Cys	Met	His	Ile	Arg	Val	Asn	Ser	Phe	Val	Ile	Tyr	Glu	Cys	Glu	Tyr	435	440	445
Phe	His	Ala	Arg	Asp	Ile	Ile	Phe	Gln	Asn	Tyr	Phe	Ile	Lys	Thr	Gln	450	455	460
Gly	Lys	Leu	Lys	Asn	Lys	Ile	Asn	Met	Thr	Ser	Pro	Tyr	Asp	Tyr	His	465	470	475
Ile	Thr	Asp	Asp	Ile	Asn	Glu	His	Pro	Tyr	Ser	Asn	Glu	Glu	Val	Met	485	490	495
Leu	Ser	Lys	Val	Val	Leu	Asn	Gly	Leu	Tyr	Gly	Ile	Pro	Ala	Leu	Arg	500	505	510

Ser His Phe Asn Leu Phe Arg Leu Asp Asp Asn Asn Glu Leu Tyr Asn  
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 Ile Ile Asn Gly Tyr Lys Asn Thr Glu Arg Asn Ile Leu Phe Ser Thr  
 530 535 540  
 Phe Val Thr Ser Arg Ser Leu Tyr Asn Leu Leu Val Pro Phe Gln Tyr  
 545 550 555 560  
 Leu Thr Glu Ser Glu Ile Asp Asp Asn Phe Ile Tyr Cys Asp Thr Asp  
 565 570 575  
 Ser Leu Tyr Met Lys Ser Val Val Lys Pro Leu Leu Asn Pro Ser Leu  
 580 585 590  
 Phe Asp Pro Ile Ala Leu Gly Lys Trp Asp Ile Glu Asn Glu Gln Ile  
 595 600 605  
 Asp Lys Met Phe Val Leu Asn His Lys Lys Tyr Ala Tyr Glu Val Asn  
 610 615 620  
 Gly Lys Ile Lys Ile Ala Ser Ala Gly Ile Pro Lys Asn Ala Phe Asp  
 625 630 635 640  
 Thr Ser Val Asp Phe Glu Thr Phe Val Arg Glu Gln Phe Phe Asp Gly  
 645 650 655  
 Ala Ile Ile Glu Asn Asn Lys Ser Ile Tyr Asn Glu Gln Gly Thr Ile  
 660 665 670  
 Ser Ile Tyr Pro Ser Lys Thr Glu Ile Val Cys Gly Asn Val Tyr Asp  
 675 680 685  
 Glu Tyr Phe Thr Asp Glu Leu Asn Met Lys Arg Glu Phe Ile Leu Lys  
 690 695 700  
 Asp Ala Arg Glu Asn Phe Asp His Ser Gln Phe Asp Asp Ile Leu Tyr  
 705 710 715 720  
 Ile Glu Ser Asp Ile Gly Ser Phe Ser Leu Asn Asp Leu Phe Pro Val  
 725 730 735  
 Glu Arg Ser Val His Asn Lys Ser Asp Leu His Ile Leu Lys Arg Glu  
 740 745 750  
 His Asp Glu Ile Lys Lys Gly Asn Cys  
 755 760

00727899-031001

[illegible]

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Asp Asp Arg Ala Asp Tyr Asn Thr Asn Ser Lys Ser Tyr Tyr Asp Tyr  
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65 70 75 80

Asn Asp Gly Thr Ile Asp Ser Ile Ile His Asp Glu Phe Lys Lys Tyr  
100 105 110

Lys Gln Met Asn Asp Phe Lys Ser Glu Val Lys Asp Leu Ile Lys Asp  
130 135 140

Phe Val Met Gly Phe Gly Gly Ile Arg Asn Ala Val Asn Gln Ser Ile  
165 170 175

Gln Lys Pro Glu Gly Phe Trp Ile Asn Lys Leu Thr Pro Ser Gly Asp  
195 200 205

Gly Leu Glu Arg Gln Ser Asn Gly Glu Met Lys Ile Trp Leu His His  
225 230 235 240

Asp	Gly	Val	Ala	Lys	Leu	Leu	Gln	Val	Ala	Tyr	Lys	Asp	Asn	Tyr	Val	245	250	255	
Leu	Asp	Leu	Glu	Glu	Ala	Lys	Gly	Leu	Thr	Asp	Tyr	Thr	Pro	Gln	Ser	260	265	270	
Leu	Leu	Asn	Lys	His	Thr	Phe	Thr	Pro	Leu	Ile	Asp	Glu	Ala	Asn	Asp	275	280	285	
Lys	Leu	Ile	Leu	Arg	Phe	Gly	Asp	Gly	Thr	Ile	Gln	Val	Arg	Ser	Arg	290	295	300	
Ala	Asp	Val	Lys	Asn	His	Ile	Asp	Asn	Val	Glu	Lys	Glu	Met	Thr	Ile	305	310	315	320
Asp	Asn	Ser	Glu	Asn	Asn	Asp	Asn	Arg	Trp	Met	Gln	Gly	Ile	Ala	Val	325	330	335	
Asp	Gly	Asp	Asp	Leu	Tyr	Trp	Leu	Ser	Gly	Asn	Ser	Ser	Val	Asn	Ser	340	345	350	
His	Val	Gln	Ile	Gly	Lys	Tyr	Ser	Leu	Thr	Thr	Gly	Gln	Lys	Ile	Tyr	355	360	365	
Asp	Tyr	Pro	Phe	Lys	Leu	Ser	Tyr	Gln	Asp	Gly	Ile	Asn	Phe	Pro	Arg	370	375	380	
Asp	Asn	Phe	Lys	Glu	Pro	Glu	Gly	Ile	Cys	Ile	Tyr	Thr	Asn	Pro	Lys	385	390	395	400
Thr	Lys	Arg	Lys	Ser	Leu	Leu	Leu	Ala	Met	Thr	Asn	Gly	Gly	Gly	Gly	405	410	415	
Lys	Arg	Phe	His	Asn	Leu	Tyr	Gly	Phe	Phe	Gln	Leu	Gly	Glu	Tyr	Glu	420	425	430	
His	Phe	Glu	Ala	Leu	Arg	Ala	Arg	Gly	Ser	Gln	Asn	Tyr	Lys	Leu	Thr	435	440	445	
Lys	Asp	Asp	Gly	Arg	Ala	Leu	Ser	Ile	Pro	Asp	His	Ile	Asp	Asp	Leu	450	455	460	
Asn	Asp	Leu	Thr	Gln	Ala	Gly	Phe	Tyr	Tyr	Ile	Asp	Gly	Gly	Thr	Ala	465	470	475	480
Glu	Lys	Leu	Lys	Asn	Met	Pro	Met	Asn	Gly	Ser	Lys	Arg	Ile	Ile	Asp	485	490	495	
Ala	Gly	Cys	Phe	Ile	Asn	Val	Tyr	Pro	Thr	Thr	Gln	Thr	Leu	Gly	Thr	500	505	510	

Val Gln Glu Leu Thr Arg Phe Ser Thr Gly Arg Lys Met Val Lys Met  
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Val Arg Gly Met Thr Leu Asp Val Phe Thr Leu Lys Trp Asp Tyr Gly  
530 535 540

Leu Trp Thr Thr Ile Lys Thr Asp Ala Pro Tyr Gln Glu Tyr Leu Glu  
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Ala Ser Gln Tyr Asn Asn Trp Ile Ala Tyr Val Thr Thr Ala Gly Glu  
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Tyr Tyr Ile Thr Gly Asn Gln Met Glu Leu Phe Arg Asp Ala Pro Glu  
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Glu Ile Lys Lys Val Gly Ala Trp Leu Arg Val Ser Ser Gly Asn Ala  
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Val Gly Glu Val Arg Gln Thr Leu Glu Ala Asn Ile Ser Glu Tyr Lys  
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<210> 77

<211> 587

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44 AHJD

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Tyr Phe Leu Asn Gly Arg His Phe Lys Ser Leu Asp Tyr Ser Lys Gln  
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Pro Tyr Asn Phe Ile Arg Asp Arg Met Glu Ile Asn Val Asp Met Gln  
50 55 60

Trp His Asp Ala Gln Gly Ile Asn Tyr Met Thr Phe Leu Ser Asp Phe  
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Glu Asp Arg Arg Tyr Tyr Ala Phe Val Asn Gln Ile Glu Tyr Val Asn  
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0072709-031001

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Asp	Leu	Ser	Lys	Lys	Phe	Gly	Thr	Lys	Lys	Glu	Pro	Asn	Leu	Asp	Thr	
			180					185					190			
Ser	Lys	Gly	Thr	Ile	Tyr	Asp	Asn	Ile	Thr	Ser	Pro	Val	Asn	Leu	Tyr	
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Val	Met	Glu	Tyr	Gly	Asp	Phe	Ile	Asn	Phe	Met	Asp	Lys	Met	Ser	Ala	
	210					215					220					
Tyr	Pro	Trp	Ile	Thr	Gln	Asn	Phe	Gln	Lys	Val	Gln	Met	Leu	Pro	Lys	
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				245					250					255		
Ile	Thr	Gly	Leu	Lys	Thr	Leu	Lys	Gln	Gly	Gly	Lys	Ser	Lys	Glu	Trp	
			260					265					270			
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Thr	Ile	Glu	Phe	Tyr	Asp	Trp	Asn	Gly	Asn	Thr	Met	Leu	Leu	Asp	Ala	
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Gly	Lys	Ile	Ser	Gln	Lys	Thr	Gly	Val	Lys	Leu	Arg	Thr	Lys	Ser	Ile	
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Tyr	Leu	Thr	Asp	Ala	Lys	Phe	Ile	Ala	Arg	Lys	Leu	Val	Ser	Gln	Ser	
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Asn	Lys	Val	Gln	Asn	Tyr	Gly	Asn	Pro	Phe	Leu	Asp	Gly	Ala	Asn	Thr	
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	195						200					205				
Asp	Ser	Ser	Asp	Ser	Gly	Ser	Ser	Gly	Asp	Ser	Gly	Ser	Ser	Leu	Leu	
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Ala	Leu	Gln	Trp	Asp	Val	His	Ser	Ile	Gly	Ser	Asp	Lys	Phe	Phe	Ser	
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		260						265					270			
Lys	Met	Thr	Ile	Gly	Leu	Leu	Asp	Ser	Leu	Lys	Lys	Leu	Ile	Asp	Ser	
	275						280					285				

Val 290	Gln	Val	Asp	Ser	Gly	Ser 295	Ser	Ser	Ser	Asn	Pro 300	Thr	Asp	Asp	Asp
Gly 305	Asp	His	Lys	Pro	Ile 310	Ser	Gly	Lys	Ser	Val 315	Lys	Pro	Asn	Gly	Lys 320
Ser	Gly	Arg	Val	Ile 325	Gly	Gly	Asn	Trp	Thr 330	Tyr	Ala	Gln	Leu	Pro 335	Glu
Lys	Tyr	Lys	Lys 340	Ala	Ile	Gly	Val	Pro 345	Leu	Phe	Lys	Lys	Glu 350	Tyr	Leu
Tyr	Lys	Pro 355	Gly	Asn	Ile	Phe	Pro 360	Gln	Thr	Gly	Asn	Ala 365	Gly	Gln	Cys
Thr 370	Glu	Leu	Thr	Trp	Ala	Tyr 375	Met	Ser	Gln	Leu	His 380	Gly	Lys	Arg	Gln
Pro 385	Thr	Asp	Asp	Gly	Gln 390	Ile	Thr	Asn	Gly	Gln 395	Arg	Val	Trp	Tyr	Val 400
Tyr	Lys	Lys	Leu	Gly 405	Ala	Lys	Thr	Thr	His 410	Asn	Pro	Thr	Val	Gly 415	Tyr
Gly	Phe	Ser	Ser 420	Lys	Pro	Pro	Tyr	Leu	Gln 425	Ala	Thr	Ala	Tyr 430	Gly	Ile
Gly	His	Thr 435	Gly	Val	Val	Val	Ala 440	Val	Phe	Glu	Asp	Gly 445	Ser	Phe	Leu
Val 450	Ala	Asn	Tyr	Asn	Val	Pro 455	Pro	Tyr	Val	Ala	Pro 460	Ser	Arg	Val	Val
Leu 465	Tyr	Thr	Leu	Ile	Asn 470	Gly	Val	Pro	Asn	Asn 475	Ala	Gly	Asp	Asn	Ile 480
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<210> 79
<211> 415
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<213> Staphylococcus aureus Bacteriophage 44 AHJD
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 Tyr Leu Ala Ile Lys Leu Asp Ile Lys Phe Thr Leu Leu Ser Arg His  
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 Tyr Thr Leu Arg Asp Ala Tyr Arg Asp Phe Ile Glu Glu Ile Ile Asp  
 85 90 95  
 Glu Asn Pro Leu Phe Lys Ser Lys Arg Val Thr Phe Arg Ser Ala Arg  
 100 105 110  
 Asp Tyr Leu Ala Ile Ile Tyr Gln Asp Lys Glu Ile Gly Val Ile Thr  
 115 120 125  
 Asp Leu Asn Ser Ala Thr Asp Leu Lys Tyr His Ser Asn Phe Leu Lys  
 130 135 140  
 His Tyr Pro Ile Ile Ile Tyr Asp Glu Phe Leu Ala Leu Glu Asp Asp  
 145 150 155 160  
 Tyr Leu Ile Asp Glu Trp Asp Lys Leu Lys Thr Ile Tyr Glu Ser Ile  
 165 170 175  
 Asp Arg Asn His Gly Asn Val Asp Tyr Ile Gly Phe Pro Lys Met Phe  
 180 185 190  
 Leu Leu Gly Asn Ala Val Asn Phe Ser Ser Pro Ile Leu Ser Asn Leu  
 195 200 205  
 Asn Ile Tyr Asn Leu Leu Gln Lys His Lys Met Asn Thr Ser Arg Leu  
 210 215 220  
 Tyr Lys Asn Ile Phe Leu Glu Met Arg Arg Asn Asp Tyr Val Asn Glu  
 225 230 235 240  
 Lys Arg Asn Thr Arg Ala Phe Asn Ser Asn Asp Asp Ala Met Thr Thr  
 245 250 255  
 Gly Glu Phe Glu Phe Asn Glu Tyr Asn Leu Ala Asp Asp Asn Leu Arg  
 260 265 270  
 Asn His Ile Asn Gln Asn Gly Asp Phe Phe Tyr Ile Lys Thr Asp Asp  
 275 280 285  
 Lys Tyr Ile Lys Val Met Tyr Asn Val Thr Thr Phe Met Thr Asn Ile  
 290 295 300

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Ile Val Val Pro Tyr Thr Lys Gln Tyr Glu Phe Cys Thr Lys Ile Arg  
305 310 315 320

Asp Ile Asp Asn His Val Thr Tyr Leu Arg Asp Asp Met Phe Tyr Lys  
325 330 335

Glu Asn Met Glu Arg Tyr Tyr Tyr Asn Pro Ser Asn Leu His Phe Asp  
340 345 350

Asn Ala Tyr Ser Lys Asn Tyr Val Val Asp Asn Asp Arg Tyr Leu Tyr  
355 360 365

Leu Asp Met Asn Lys Ile Ile Lys Phe His Ile Lys Asn Glu Met Lys  
370 375 380

Lys Asn Met Ser Glu Phe Glu Arg Lys Glu Lys Ile Tyr Glu Asp Asn  
385 390 395 400

Tyr Ile Glu Asn Thr Lys Lys Tyr Leu Met Lys Gln Tyr Gly Leu  
405 410 415

<210> 80  
<211> 408  
<212> PRT  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 80

Met Ala Gln Gln Ser Thr Lys Asn Glu Thr Ala Leu Leu Val Ala Lys  
1 5 10 15

Ser Ala Lys Ser Ala Leu Gln Asp Phe Asn His Asp Tyr Ser Lys Ser  
20 25 30

Trp Thr Phe Gly Asp Lys Trp Asp Asn Ser Asn Thr Met Phe Glu Thr  
35 40 45

Phe Val Asn Lys Tyr Leu Phe Pro Lys Ile Asn Glu Thr Leu Leu Ile  
50 55 60

Asp Ile Ala Leu Gly Asn Arg Phe Asn Trp Leu Ala Lys Glu Gln Asp  
65 70 75 80

Phe Ile Gly Gln Tyr Ser Glu Glu Tyr Val Ile Met Asp Thr Val Pro  
85 90 95

Ile Asn Met Asp Leu Ser Lys Asn Glu Glu Leu Met Leu Lys Arg Asn  
100 105 110

Tyr Pro Arg Met Ala Thr Lys Leu Tyr Gly Asn Gly Ile Val Lys Lys  
115 120 125

Gln	Lys	Phe	Thr	Leu	Asn	Asn	Asn	Asp	Thr	Arg	Phe	Asn	Phe	Gln	Thr	130	135	140	
Leu	Ala	Asp	Ala	Thr	Asn	Tyr	Ala	Leu	Gly	Val	Tyr	Lys	Lys	Lys	Ile	145	150	155	160
Ser	Asp	Ile	Asn	Val	Leu	Glu	Glu	Lys	Glu	Met	Arg	Ala	Met	Leu	Val	165	170	175	
Asp	Tyr	Ser	Leu	Asn	Gln	Leu	Ser	Glu	Thr	Asn	Val	Arg	Lys	Ala	Thr	180	185	190	
Ser	Lys	Glu	Asp	Leu	Ala	Ser	Lys	Val	Phe	Glu	Ala	Ile	Leu	Asn	Leu	195	200	205	
Gln	Asn	Asn	Ser	Ala	Lys	Tyr	Asn	Glu	Val	His	Arg	Ala	Ser	Gly	Gly	210	215	220	
Ala	Ile	Gly	Gln	Tyr	Thr	Thr	Val	Ser	Lys	Leu	Lys	Asp	Ile	Val	Ile	225	230	235	240
Leu	Thr	Thr	Asp	Ser	Leu	Lys	Ser	Tyr	Leu	Leu	Asp	Thr	Lys	Ile	Ala	245	250	255	
Asn	Thr	Phe	Gln	Ile	Ala	Gly	Ile	Asp	Phe	Thr	Asp	His	Val	Ile	Ser	260	265	270	
Phe	Asp	Asp	Leu	Gly	Gly	Val	Phe	Lys	Val	Thr	Lys	Glu	Phe	Lys	Leu	275	280	285	
Gln	Asn	Gln	Asp	Ser	Ile	Asp	Phe	Leu	Arg	Ala	Tyr	Gly	Asp	Tyr	Gln	290	295	300	
Ser	Gln	Leu	Gly	Asp	Thr	Ile	Pro	Val	Gly	Ala	Val	Phe	Thr	Tyr	Asp	305	310	315	320
Val	Ser	Lys	Leu	Lys	Glu	Phe	Thr	Gly	Asn	Val	Glu	Glu	Ile	Lys	Pro	325	330	335	
Lys	Ser	Asp	Leu	Tyr	Ala	Phe	Ile	Leu	Asp	Ile	Asn	Ser	Ile	Lys	Tyr	340	345	350	
Lys	Arg	Tyr	Thr	Lys	Gly	Met	Leu	Lys	Pro	Pro	Phe	His	Asn	Pro	Glu	355	360	365	
Phe	Asp	Glu	Val	Thr	His	Trp	Ile	His	Tyr	Tyr	Ser	Phe	Lys	Ala	Ile	370	375	380	
Ser	Pro	Phe	Phe	Asn	Lys	Ile	Leu	Ile	Thr	Asp	Gln	Asp	Val	Asn	Pro	385	390	395	400

Lys Pro Glu Glu Glu Leu Gln Glu  
405

<210> 81  
<211> 327  
<212> PRT  
<213> Staphylococcus aureus Bacteriophage 44 AHJD  
  
<400> 81

Met	Asn	Asn	Asp	Lys	Arg	Gly	Leu	Asn	Val	Glu	Leu	Ser	Lys	Glu	Ile	1	5	10	15
Ser	Lys	Arg	Val	Val	Glu	His	Arg	Asn	Arg	Phe	Lys	Arg	Leu	Met	Phe	20	25	30	
Asn	Arg	Tyr	Leu	Glu	Phe	Leu	Pro	Leu	Leu	Ile	Asn	Tyr	Thr	Asn	Arg	35	40	45	
Asp	Thr	Val	Gly	Ile	Asp	Phe	Ile	Gln	Leu	Glu	Ser	Ala	Leu	Arg	Gln	50	55	60	
Asn	Ile	Asn	Val	Val	Val	Gly	Glu	Ala	Arg	Asn	Lys	Gln	Ile	Met	Ile	65	70	75	80
Leu	Gly	Tyr	Val	Asn	Asn	Thr	Tyr	Phe	Asn	Gln	Ala	Pro	Asn	Phe	Ser	85	90	95	
Ser	Asn	Phe	Asn	Phe	Gln	Phe	Gln	Lys	Arg	Leu	Thr	Lys	Glu	Asp	Ile	100	105	110	
Tyr	Phe	Ile	Val	Pro	Asp	Tyr	Leu	Ile	Pro	Asp	Asp	Cys	Leu	Gln	Ile	115	120	125	
His	Lys	Leu	Tyr	Asp	Asn	Cys	Met	Ser	Gly	Asn	Phe	Val	Val	Met	Gln	130	135	140	
Asn	Lys	Pro	Ile	Gln	Tyr	Asn	Ser	Asp	Ile	Glu	Ile	Ile	Glu	His	Tyr	145	150	155	160
Thr	Asp	Glu	Leu	Ala	Glu	Val	Ala	Leu	Ser	Arg	Phe	Ser	Leu	Ile	Met	165	170	175	
Gln	Ala	Lys	Phe	Ser	Lys	Ile	Phe	Lys	Ser	Glu	Ile	Asn	Asp	Glu	Ser	180	185	190	
Ile	Asn	Gln	Leu	Val	Ser	Glu	Ile	Tyr	Asn	Gly	Ala	Pro	Phe	Val	Lys	195	200	205	
Met	Ser	Pro	Met	Phe	Asn	Ala	Asp	Asp	Asp	Ile	Ile	Asp	Leu	Thr	Ser	210	215	220	



Glu His Asn Glu Asp Thr Thr Ser Asn Thr Asp Glu Thr Ser Asn Gln  
130 135 140

Asn Ala Thr Ser Leu Asp Asn Ser Thr Gly Met Thr Ala Asn Arg Asn  
145 150 155 160

Ala Tyr Val Ser Leu Pro Gln Ser Glu Val Asn Ile Asp Val Asp Asn  
165 170 175

Thr Thr Leu Arg Phe Ala Asp Asn Asn Thr Ile Asp Asn Gly Lys Thr  
180 185 190

Val Asn Lys Ser Ser Asn Glu Ser Asn Gln Asn Ala Lys Arg Asn Gln  
195 200 205

Asn Gln Lys Gly Asn Ala Lys Gly Thr Gln Phe Thr Lys Gln Tyr Leu  
210 215 220

Ile Asp Asn Ile Asp Lys Ala Tyr Asp Leu Arg Lys Lys Ile Leu Asn  
225 230 235 240

Glu Phe Asp Lys Lys Cys Phe Leu Gln Ile Trp  
245 250

<210> 83  
<211> 250  
<212> PRT  
<213> Staphylococcus aureus Bacteriophage 44 AHJD  
<400> 83

Met Lys Ser Gln Gln Gln Ala Lys Glu Trp Ile Tyr Lys His Glu Gly  
1 5 10 15

Ala Gly Val Asp Phe Asp Gly Ala Tyr Gly Phe Gln Cys Met Asp Leu  
20 25 30

Ser Val Ala Tyr Val Tyr Tyr Ile Thr Asp Gly Lys Val Arg Met Trp  
35 40 45

Gly Asn Ala Lys Asp Ala Ile Asn Asn Asp Phe Lys Gly Leu Ala Thr  
50 55 60

Val Tyr Lys Asn Thr Pro Ser Phe Lys Pro Gln Leu Gly Asp Val Ala  
65 70 75 80

Val Tyr Thr Asn Gly Gln Tyr Gly His Ile Gln Cys Val Leu Ser Gly  
85 90 95

Asn Leu Asp Tyr Tyr Thr Cys Leu Glu Gln Asn Trp Leu Gly Gly Gly  
100 105 110

Phe Asp Gly Trp Glu Lys Ala Thr Ile Arg Thr His Tyr Tyr Asp Gly  
115 120 125

Val Thr His Phe Ile Arg Pro Lys Phe Ser Gly Ser Asn Ser Lys Ala  
130 135 140

Leu Glu Thr Ser Lys Val Asn Thr Phe Gly Lys Trp Lys Arg Asn Gln  
145 150 155 160

Tyr Gly Thr Tyr Tyr Arg Asn Glu Asn Gly Thr Phe Thr Cys Gly Phe  
165 170 175

Leu Pro Ile Phe Ala Arg Val Gly Ser Pro Lys Leu Ser Glu Pro Asn  
180 185 190

Gly Tyr Trp Phe Gln Pro Asn Gly Tyr Thr Pro Tyr Asn Glu Val Cys  
195 200 205

Leu Ser Asp Gly Tyr Val Trp Ile Gly Tyr Asn Trp Gln Gly Thr Arg  
210 215 220

Tyr Tyr Leu Pro Val Arg Gln Trp Asn Gly Lys Thr Gly Asn Ser Tyr  
225 230 235 240

Ser Val Gly Ile Pro Trp Gly Val Phe Ser  
245 250

<210> 84  
<211> 160  
<212> PRT  
<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 84

Leu Val Arg His Thr Ser Glu Met Asp Arg Trp Lys Lys Glu Arg Glu  
1 5 10 15

Ala Arg Lys Glu Gln Glu Lys Asp Leu Phe Leu Asn Asp Phe Ser Asn  
20 25 30

Val Asn Phe Lys Phe Asp Asp Lys Asp Leu Gln Glu Ala Tyr Ile Asp  
35 40 45

Thr Trp Lys His Phe Ala His Leu Pro Tyr Phe Pro Lys Glu Arg Asn  
50 55 60

Val Ser Tyr Val Asn Ala Val Ser Leu Val Arg Gly Ser Arg His Lys  
65 70 75 80

Lys Leu Asn Tyr Ile Leu Glu Ile Tyr Asn Arg Asn Asp Asp Ser Asn  
85 90 95

Asn Lys Asn Ala Lys Lys His Lys Tyr Ala Leu Tyr Asn Leu Gln Ala  
 100 105 110

Lys Asn Asn Asn Ser Ser Met Tyr Lys Tyr Ile Lys Glu Ile Asp Thr  
 115 120 125

Leu Tyr Lys Glu Ile Gly Lys Ser Asp Arg Pro Val Thr Asn Ile Asp  
 130 135 140

Asp Glu Asp Val Arg Tyr Asn Phe Leu Tyr Tyr Ala Thr Phe Asp Glu  
 145 150 155 160

<210> 85  
 <211> 122  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD  
 <400> 85

Met Thr Asn Val Lys Asp Ile Leu Ser Arg His Gln Asn Thr Leu Ala  
 1 5 10 15

Arg Phe Glu Phe Glu Glu Lys Glu Arg Glu Phe Ile Lys Leu Ser Glu  
 20 25 30

Leu Val Glu Lys Tyr Gly Met Lys Lys Glu Tyr Ile Val Arg Ala Leu  
 35 40 45

Phe Thr Asn Lys Glu Ser Lys Phe Gly Glu Gln Gly Val Ile Val Thr  
 50 55 60

Asp Asp Tyr Asn Val Asn Leu Pro Asn His Leu Thr Glu Leu Ile Lys  
 65 70 75 80

Glu Met Arg Ala Asp Glu Asp Val Val Asp Ile Ile Asn Ala Gly Glu  
 85 90 95

Val Gln Phe Thr Ile Tyr Glu Tyr Glu Asn Lys Lys Gly Gln Lys Gly  
 100 105 110

Tyr Ser Ile Asn Phe Gly Gln Val Ser Phe  
 115 120

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<210> 86  
 <211> 140  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 86

Met Asn Glu Val Lys Phe Arg Phe Thr Asp Ser Glu Ala Phe His Met  
 1 5 10 15

Phe Ile Tyr Ala Gly Asp Leu Lys Leu Leu Tyr Phe Leu Phe Val Leu  
 20 25 30

Met Phe Val Asp Ile Ile Thr Gly Ile Ser Lys Ala Ile Lys Asn Asn  
 35 40 45

Asn Leu Trp Ser Lys Lys Ser Met Arg Gly Phe Ser Lys Lys Leu Leu  
 50 55 60

Ile Phe Cys Ile Ile Ile Leu Ala Asn Ile Ile Asp Gln Ile Leu Gln  
 65 70 75 80

Leu Lys Gly Gly Leu Leu Met Ile Thr Ile Phe Tyr Tyr Ile Ala Asn  
 85 90 95

Glu Gly Leu Ser Ile Val Glu Asn Cys Ala Glu Met Asp Val Leu Val  
 100 105 110

Pro Glu Gln Ile Lys Asp Lys Leu Arg Val Ile Lys Asn Asp Thr Glu  
 115 120 125

Lys Ser Asp Asn Asn Glu Arg Ser Arg Glu Asp Arg  
 130 135 140

<210> 87  
 <211> 136  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 87

Met Lys Ile Lys Thr Thr Phe Arg Leu Asn Asn Leu Ile Tyr Tyr Leu  
 1 5 10 15

Leu Thr Asn Arg Asp Tyr Tyr Asn Asp Lys Phe Glu Lys Phe Thr Ser  
 20 25 30

Ser Asn Lys Lys Cys Ile Val Lys Ile Asn Met Gly Asp Val Tyr Ile  
 35 40 45

Glu Phe Asp Lys Gln Tyr Asp Asp Phe Glu Ile Glu Lys Glu Leu Phe  
 50 55 60



Asn Ala Leu Thr Ile Tyr Ser Phe Phe Ile Pro Tyr Phe Ser Thr Asn  
20 25 30

Ser Asp Ser Leu Ile Asn Ser Leu Ser Phe Ser Ser Asn Ser Asn Leu  
35 40 45

Ala Asn Val Phe Trp Cys Leu Asp Lys Ile Ser Phe Thr Phe Val Ile  
50 55 60

Leu Phe Leu Leu Leu Phe Lys Leu Phe Ala Phe Cys Asn Cys Asp Leu  
65 70 75 80

<210> 90

<211> 78

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 90

Met Lys Val Asp Asp Ile Val Thr Leu Arg Val Lys Gly Tyr Ile Leu  
1 5 10 15

His Tyr Leu Asp Asp Asp Asn Glu Tyr Ile Glu Glu Phe Leu Pro Leu  
20 25 30

His Glu Tyr His Leu Thr Lys Thr Gln Ala Lys Glu Leu Leu Pro Asp  
35 40 45

Thr Cys Lys Leu Leu Ser Thr Thr Arg Thr Thr Lys Thr Ile Gln Val  
50 55 60

Tyr Tyr Asn Asp Leu Leu Gln Ile Ala Ile Ala Glu Ser Lys  
65 70 75

<210> 91

<211> 73

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 91

Met Glu Arg Leu Lys Leu Leu Leu Leu Val Tyr Arg Lys Thr Pro Leu  
1 5 10 15

Ile Gln Ala Ser Ile Leu Lys Pro Leu Tyr Val Asn Asn Ser Leu Thr  
20 25 30

Val Pro Leu Leu Lys Thr Ile Lys Val Ser Ile Met Ser Lys Val Gln  
35 40 45

Tyr Arg Tyr Ile Arg Leu Lys Leu Lys Leu Tyr Val Val Met Tyr Met  
50 55 60

Met Asn Ile Leu Leu Met Asn Leu Ile  
65 70

<210> 92  
<211> 70  
<212> PRT  
<213> Staphylococcus aureus Bacteriophage 44 AHJD  
  
<400> 92

Met Leu Ile Gly Thr Val Ser Ile Ile Thr Tyr Ser Ser Leu Tyr Cys  
1 5 10 15

Pro Ile Lys Ser Cys Ser Leu Ala Asn Gln Leu Lys Arg Leu Pro Asn  
20 25 30

Ala Ile Ser Ile Asn Lys Val Ser Leu Ile Leu Gly Asn Lys Tyr Leu  
35 40 45

Phe Thr Asn Val Ser Asn Ile Val Phe Glu Leu Ser His Leu Ser Pro  
50 55 60

Asn Val Gln Asp Phe Glu  
65 70

<210> 93  
<211> 68  
<212> PRT  
<213> Staphylococcus aureus Bacteriophage 44 AHJD  
  
<400> 93

Met Leu Pro Gly Leu Tyr Lys Tyr Ser Phe Leu Asn Lys Gly Thr Pro  
1 5 10 15

Ile Ala Phe Leu Tyr Phe Ser Gly Asn Cys Ala Tyr Val Gln Leu Pro  
20 25 30

Pro Ile Thr Arg Pro Leu Phe Pro Phe Gly Leu Thr Asp Leu Pro Leu  
35 40 45

Ile Gly Leu Trp Ser Pro Ser Ser Val Gly Leu Glu Leu Leu Leu  
50 55 60

Pro Leu Ser Thr  
65

<210> 94  
 <211> 62  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 94

Met	Ser	Lys	Arg	Phe	Cys	Phe	Thr	Met	Phe	Leu	Leu	Leu	Val	Ile	Val
1				5					10					15	
Tyr	Asp	Val	Val	Tyr	Ser	Val	Lys	Phe	Ile	Arg	Gln	Met	Leu	His	Asn
		20						25					30		
Ile	Lys	Ser	Tyr	Thr	Ser	His	Leu	His	His	Gln	Tyr	Leu	Ser	Leu	Val
	35						40					45			
Tyr	Leu	Ile	Tyr	Gln	Phe	Leu	Tyr	Ile	Lys	Tyr	Arg	Phe	Leu		
	50					55					60				

<210> 95  
 <211> 60  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 95

Met	His	His	Gln	Ser	Gln	His	Leu	Pro	Pro	His	Ala	Tyr	Ile	Ser	Ile
1				5					10					15	
Leu	Leu	Leu	Val	Val	Val	Ile	Ser	Phe	Ile	Ser	Leu	Leu	Phe	Leu	Met
			20					25					30		
Phe	Cys	Tyr	Pro	Thr	Ile	Phe	Thr	Met	Phe	Cys	Phe	Arg	Ile	Asn	Ile
	35					40						45			
Thr	Glu	Glu	Phe	Phe	Ile	Phe	Arg	Tyr	Ile	Ser	Leu				
	50					55					60				

<210> 96  
 <211> 47  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 96

Met	Phe	Ala	Lys	Met	Ile	Ile	Gln	Asn	Ile	Asn	Asn	Phe	Leu	Glu	Asn
1				5					10					15	
Pro	Leu	Ile	Asp	Phe	Phe	Asp	His	Lys	Leu	Leu	Phe	Leu	Ile	Ala	Phe
			20					25					30		



Glu Ile Pro Val Ile Ile Ser Thr Asn Ile Asn Thr Asn Lys Lys  
 35 40 45

<210> 97  
 <211> 59  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD  
 <400> 97

Met Arg Thr Pro Pro Lys Glu Tyr Gln His Cys Asn Tyr Tyr Leu Phe  
 1 5 10 15

Phe His Ser Ile Gly Ala Leu Val Asn Asn Asn Val Cys Leu Ala Ser  
 20 25 30

Tyr Asn Gln Ser Ile Arg Asn His Leu Ile Asn Lys Leu Arg Tyr Met  
 35 40 45

Val Tyr Asn Arg Leu Val Gly Thr Asn Ser His  
 50 55

<210> 98  
 <211> 58  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD  
 <400> 98

Val Ser Met Tyr Ala Ser Cys Lys Ser Leu Ser Ser Asn Leu Lys Leu  
 1 5 10 15

Thr Leu Leu Lys Ser Phe Lys Asn Lys Ser Phe Ser Cys Ser Phe Leu  
 20 25 30

Ala Ser Leu Ser Phe Phe His Leu Ser Ile Ser Asp Val Cys Leu Thr  
 35 40 45

Asn Val Ile Asn Leu His Ile Lys His Lys  
 50 55

<210> 99  
 <211> 58  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD  
 <400> 99

Met Glu Arg Lys Tyr Lys Thr Val Leu Leu Tyr Cys Asp Glu Ile Lys  
 1 5 10 15

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Gly His Phe Pro His Gln Ile Ser Met Phe Glu Asp Leu Tyr Asp Ala  
 20 25 30

Lys Val Val Tyr Ser Tyr Tyr Glu Tyr Asn Leu Phe Thr Lys Lys Tyr  
 35 40 45

Ala Tyr Ile Ile Glu Tyr Ile Lys Glu Ile  
 50 55

<210> 100

<211> 55

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 100

Met Asn Asn Leu Leu Asn Ile Ala Ile Val Phe Leu Leu Ala Phe Leu  
 1 5 10 15

Ile Thr Leu Ile Ile Leu Met Thr Leu His Ile Arg Val Ser Phe Gly  
 20 25 30

Val Leu Phe Thr Thr Leu Ile Ile Phe Tyr Ile Ile Phe Leu Met Val  
 35 40 45

Ile Tyr Ala Leu Tyr Gly Gly  
 50 55

<210> 101

<211> 54

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 101

Met Ile Val Tyr Ile Pro Asn Phe Ser Thr Lys Phe Ile Leu Phe Cys  
 1 5 10 15

Ile Trp Tyr Asn Asp Asn Ile Cys His Lys Ser Ser Tyr Ile Ile His  
 20 25 30

Asp Phe Asn Ile Phe Ile Ile Ser Phe Asp Ile Glu Glu Ile Thr Val  
 35 40 45

Leu Ile Asp Val Ile Ser  
 50

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Arg Leu Phe Met Val Asn His Phe Pro Ile Ile Val Tyr Asp Phe Val  
 35 40 45

Leu Ile Asn Asn His  
 50

<210> 105

<211> 50

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 105

Met Ile Leu Tyr Ser Ser Leu Leu Ser Ser Lys Arg Asn Lys Leu Lys  
 1 5 10 15

Cys Glu Arg Asn Ala Gly Met Pro Tyr Asn Pro Phe Lys Thr Thr Leu  
 20 25 30

Asp Asn Ile Thr Ser Ser Phe Glu Tyr Gly Cys Ser Leu Ile Ser Ser  
 35 40 45

Val Met  
 50

<210> 106

<211> 49

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 106

Met Ala Cys Phe Ala Lys Ala Ser Ser Glu Leu Pro Leu Ser Pro Leu  
 1 5 10 15

Leu Pro Leu Ser Asp Glu Ser Leu Gly Asp Pro Pro Leu Pro Ser Asn  
 20 25 30

Leu Pro Pro Gln Ala Arg Ile Val Phe Ala Pro Ser Lys Asn Gly Leu  
 35 40 45

Pro

<210> 107  
 <211> 49  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 107

Met Pro Leu Phe Asn His Leu Tyr Gln Ile Cys Lys Lys His Phe Leu  
 1 5 10 15

Ser Asn Ser Phe Lys Ile Phe Phe Leu Lys Ser Tyr Ala Leu Ser Ile  
 20 25 30

Leu Ser Ile Lys Tyr Cys Leu Val Asn Cys Val Pro Phe Ala Leu Pro  
 35 40 45

Phe

<210> 108  
 <211> 48  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 108

Met Met Ile Leu Ile Ile Lys Thr Leu Lys Ser Ile Asn Thr Leu Tyr  
 1 5 10 15

Ile Ile Tyr Lys Leu Lys Ile Ile Ile Leu Gln Cys Ile Asn Ile Leu  
 20 25 30

Lys Lys Ser Ile Leu Tyr Ile Lys Lys Leu Val Asn Gln Ile Asp Gln  
 35 40 45

<210> 109  
 <211> 48  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 109

Met Gln His Leu Thr Asn Lys Phe Asn Thr Val Asn Asp Ile Ile Asn  
 1 5 10 15

Tyr Tyr Lys Glu Gln Lys His Gly Lys Thr Lys Ser Phe Arg His Gly  
 20 25 30

Lys Arg Leu Ser Lys Cys Cys Gln Ser Cys Gln Lys Lys Asn Pro Arg  
 35 40 45

<210> 110  
 <211> 48  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 110

Val Tyr Thr Ile Pro His Val Met Val Gln His Met Val Val His Tyr  
 1 5 10 15

Ser Leu Gln Leu Lys Thr Asn His Leu Gln Lys Leu Leu Gln Gln His  
 20 25 30

Leu Cys Asp Gln Tyr His Met Gln Leu Leu Val Ser Met Val Val Tyr  
 35 40 45

<210> 111  
 <211> 47  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 111

Met Ser Ile Ser Asn Val Asn Asn Ser Phe Ser Ile Ser Lys Ser Ser  
 1 5 10 15

Tyr Cys Leu Ser Asn Ser Ile Tyr Thr Ser Pro Ile Phe Ile Phe Thr  
 20 25 30

Ile His Phe Leu Leu Asp Glu Val Asn Phe Ser Asn Leu Ser Leu  
 35 40 45

<210> 112  
 <211> 47  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 112

Val Tyr Leu Leu His Tyr Leu Phe Asp Phe Asp Tyr Val Leu Arg Phe  
 1 5 10 15

Asp Tyr Phe Arg Tyr Ser Ile Tyr Ser Gln Phe Tyr Arg Tyr Gln Ser  
 20 25 30

Tyr Tyr Tyr Gln Arg Ile Val Thr Leu Tyr Tyr Gln His Gln Cys  
 35 40 45

<210> 113  
 <211> 46  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 113

Val Leu Tyr Leu Leu Met Met Tyr Leu Asn Leu Lys Ser Leu Leu Ala  
 1 5 10 15

Thr Leu Lys Lys Leu Asn Gln Asn Gln Ile Tyr Met Arg Leu Phe Trp  
 20 25 30

Ile Leu Ile Gln Leu Asn Ile Asn Val Thr Gln Lys Val Cys  
 35 40 45

<210> 114  
 <211> 45  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 114

Val Val Thr Gly His Met His Ser Tyr Gln Lys Asn Ile Lys Lys Gln  
 1 5 10 15

Leu Val Tyr Leu Tyr Ser Lys Lys Asn Thr Tyr Thr Asn Gln Val Thr  
 20 25 30

Tyr Phe Leu Lys Arg Val Met Gln Asp Asn Val Gln Asn  
 35 40 45

<210> 115  
 <211> 45  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 115

Met Ser Ser Thr Phe Ile Ile Ile Ser Leu Leu Ser Lys Lys Arg Lys  
 1 5 10 15

Arg Tyr Thr Phe His Lys Ile Leu Tyr Ala Tyr Ser Ile Val Leu Leu  
 20 25 30

Gly His His Gln Gln Tyr Lys Thr Ile Leu Ile Leu Val  
 35 40 45

<210> 116  
 <211> 45  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 116

Met His Asp Arg Arg Leu Leu Leu Ile Tyr Ser Phe Val Asn Leu Leu  
 1 5 10 15

Arg Val Met Leu Gln Ser Val His Thr His Gln Val Gly Arg Asn His  
 20 25 30

Ile Asn Tyr Gly Asn Val Phe His His Arg Arg Leu Ser  
 35 40 45

<210> 117  
 <211> 45  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 117

Met Arg Leu Val Thr Val Leu Gln His His Arg Asp Val Thr Arg Phe  
 1 5 10 15

Ser Phe His His Trp Ile Asp Val Leu Ile Arg Leu Leu Tyr His Asp  
 20 25 30

His Pro Val Gln Tyr Ala Cys Leu Lys Leu Ser His His  
 35 40 45

<210> 118  
 <211> 44  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 118

Met Leu Pro Ile Tyr Val Met Ile Cys Phe Ile Lys Lys Thr Trp Asn  
 1 5 10 15

Val Ile Thr Thr Ile Gln Ala Ile Tyr Ile Leu Thr Met Leu Thr Leu  
 20 25 30

Lys Ile Thr Trp Leu Ile Met Ile Asp Ile Tyr Ile  
 35 40

<210> 119  
 <211> 42  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 119

Met Ala Pro Ser Lys Asn Cys Ser Arg Thr Lys Val Ser Lys Ser Thr  
 1 5 10 15

Leu Val Ser Lys Ala Phe Phe Gly Ile Pro Ala Glu Ala Ile Leu Ile  
 20 25 30

Phe Pro Phe Thr Ser Tyr Ala Tyr Phe Leu  
 35 40

<210> 120  
 <211> 42  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 120

Met Ile Ile His Leu Ser Tyr His Ile Lys Thr Val Leu Ile Ser His  
 1 5 10 15

Val Ile Thr Leu Lys Ser Leu Arg Val Phe Ala Phe Ile Gln Ile Gln  
 20 25 30

Lys Gln Asn Val Asn Arg Tyr Tyr Leu Leu  
 35 40

<210> 121  
 <211> 42  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 121

Met Asn Val Cys Lys Leu Phe Arg Cys Glu Phe Cys Lys Thr Phe His  
 1 5 10 15

Ser Ile Val Ile Gly Phe Thr Ile Ile His Ile Ile Ile Phe Ile Lys  
 20 25 30

Asn Arg Ile Ile Lys Ile Cys Phe Lys Leu  
 35 40

<210> 122  
 <211> 42  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 122

Met Arg Thr Leu Leu Thr Leu Ser Met Leu Glu Lys Phe Asn Ser Gln  
 1 5 10 15

Phe Met Asn Met Lys Thr Lys Lys Val Lys Lys Val Thr Gln Ser Ile  
 20 25 30

Leu Val Lys Tyr His Phe Asn Thr Ile Ser  
 35 40

<210> 123  
 <211> 41  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 123

Met Arg Gly Gln Val Leu Thr Leu Met Val His Met Asp Phe Asn Val  
 1 5 10 15

Trp Thr Tyr Gln Leu Leu Met Cys Ile Thr Leu Leu Thr Val Lys Phe  
 20 25 30

Ala Cys Gly Val Met Leu Lys Thr Arg  
 35 40

<210> 124  
 <211> 41  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 124

Val Cys Tyr Val Phe His Ser Arg Asn Arg Phe Val Ala Phe Leu Lys  
 1 5 10 15

Lys Cys Phe Cys Lys Val Leu Met Tyr Ser Phe Tyr Ala Phe Val Ile  
 20 25 30

Asn Cys Ile Tyr Leu Asn Trp Ile Ile  
 35 40

<210> 125  
 <211> 40  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 125

Met Ile Thr Met Asn Tyr Thr Ile Ser Leu Thr Val Thr Lys Thr Leu  
 1 5 10 15

Asn Val Ile Tyr Tyr Ser Leu His Leu Ser His His Val His Cys Ile  
 20 25 30

Thr Tyr Trp Phe Leu Ser Asn Thr  
 35 40

<210> 126  
 <211> 40  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 126

Met Ile Leu Val Met Leu Ile Leu Asn Leu Met Ile Lys Ile Tyr Lys  
 1 5 10 15

Arg Arg Thr Leu Thr His Gly Asn Ile Leu His Ile Cys Pro Ile Phe  
 20 25 30

Leu Lys Lys Glu Thr Tyr His Met  
 35 40

<210> 127  
 <211> 39  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 127

Met Trp Phe Ile His Gln Val Lys Leu Lys Asn Thr Tyr Asn His Lys  
 1 5 10 15

Ala Ser Gln Asn Thr Met Lys Ile Gln Gln Val Thr Leu Met Lys His  
 20 25 30

Arg Ile Lys Met Leu His Leu  
 35

<210> 128  
 <211> 39  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 128

Met Thr Gly Met Glu Ile Arg Cys Tyr Ser Thr Leu Val Arg Phe His  
 1 5 10 15

Lys Lys Leu Val Leu Ser Tyr Val Gln Asn Gln Leu Leu Val Ile Ile  
 20 25 30

Met Lys Phe Glu Tyr Ile Gln  
 35

<210> 129  
 <211> 38  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 129

Met Cys Leu Val Ile Ile Leu Leu Leu Val Phe Trp Leu Asn Asp Thr  
 1 5 10 15

Arg Glu Val Val Lys Ile Pro Gln Cys Ile His Tyr His His Leu Ser  
 20 25 30

Asn Glu Val Tyr Asn Leu  
 35

<210> 130  
 <211> 37  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 130

Val Ser Ile Thr Leu Gln Val Thr Lys Trp Asn Tyr Leu Glu Thr Arg  
 1 5 10 15

Gln Lys Lys Leu Lys Lys Trp Val His Gly Tyr Val Cys Gln Val Val  
 20 25 30

Thr Gln Ser Val Lys  
 35

<210> 131  
 <211> 36  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 131

Met Tyr His His Met Leu His His His Val Trp Tyr Cys Ile His Ser  
 1 5 10 15

Leu Met Ala Tyr Gln Ile Met Leu Val Ile Ile Leu Tyr Ser Leu Val  
 20 25 30

Val Leu Leu Asn  
 35

<210> 132  
 <211> 36  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 132

Met His Ile Ser Tyr Asp Ser Val Gln Thr Ser Tyr Leu Ser Val Arg  
 1 5 10 15

Phe Gln Tyr Pro Ile Tyr Leu Arg Leu Ser Gly Arg Ile Asn Trp Gly  
 20 25 30

Ser Ile Arg Val  
 35

<210> 133  
 <211> 36  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 133

Met Asp Phe Val Thr Leu Asp Tyr Leu Asn Arg His Tyr Ala Lys Ile  
 1 5 10 15

Leu His Gln Ile Leu Lys Leu Leu Leu Ile Val Pro Leu Thr Trp Gly  
 20 25 30

Arg Cys His Val  
 35

<210> 134  
 <211> 36  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 134

Met Tyr His Phe His Phe Tyr Asn Met Cys Arg Ile Gly Phe Val Ser  
 1 5 10 15

Ile Phe Gln Met Tyr Leu Leu Leu Met Phe Leu Met Leu Cys Tyr Tyr  
 20 25 30

Tyr Leu Lys Ile  
 35

<210> 135  
 <211> 35  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 135

Met Cys Phe Gly Val Leu Ile Lys Tyr Leu Leu Arg Leu Ser Phe Tyr  
 1 5 10 15

Phe Ser Ser Tyr Leu Asn Tyr Leu Leu Ser Ala Ile Ala Ile Cys Ser  
 20 25 30

Lys Ser Leu  
 35

<210> 136  
 <211> 34  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 136

Val Val Phe Ala Thr Gln Leu Thr Asn Leu Leu Ile Leu Ile Lys Lys  
 1 5 10 15

Gln Ile Thr Cys Thr Leu His Asn Pro Ile Leu Lys Asn Leu Lys Val  
 20 25 30

Phe Gly

<210> 137  
 <211> 34  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 137

Met Arg Leu Val Phe Phe Leu Ile Ile Leu Ala Trp Leu Val Leu Leu  
 1 5 10 15

Lys Arg Val Val Asn Tyr His Cys His His Tyr Tyr His Cys Gln Thr  
 20 25 30

Asn His

<210> 138  
 <211> 33  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 138

Met Thr Ser Gln Ser Ile Asn Leu Cys Pro Lys Tyr Ile Thr Val His  
 1 5 10 15

His Leu Leu Lys Cys His Leu Cys Leu Met Gln Met Thr Ile Ser Leu  
 20 25 30

Ile

<210> 139  
 <211> 33  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 139

Val Val Glu Asn Val Ser Ile Ile Tyr Met Val Ser Ser Asn Leu Val  
 1 5 10 15

Ser Met Asn Thr Leu Lys His Tyr Ala Gln Glu Val His Lys Thr Ile  
 20 25 30

Asn

007880-22260

<210> 140  
 <211> 33  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 140

Met Ile Phe Phe Ile Leu Lys Val Thr Ser Val His Phe His Leu Thr  
 1 5 10 15

Thr Tyr Phe Gln Leu Asn Val Gln Tyr Ile Thr Asn Leu Ile Cys Ile  
 20 25 30

Tyr

<210> 141  
 <211> 133  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 141

Met Thr Glu Phe Asp Glu Ile Val Lys Pro Asp Asp Lys Glu Glu Thr  
 1 5 10 15

Ser Glu Ser Thr Glu Glu Asn Leu Glu Ser Thr Glu Glu Thr Ser Glu  
 20 25 30

Ser Thr Glu Glu Ser Thr Glu Glu Ser Thr Glu Glu Ser Thr Glu Asp  
 35 40 45

Lys Thr Val Glu Thr Ile Glu Glu Glu Asn Glu Asn Lys Leu Glu Pro  
 50 55 60

Thr Thr Thr Asp Glu Asp Ser Ser Lys Phe Asp Pro Val Val Leu Glu  
 65 70 75 80

Gln Arg Ile Ala Ser Leu Glu Gln Gln Val Thr Thr Phe Leu Ser Ser  
 85 90 95

Gln Met Gln Gln Pro Gln Gln Val Gln Gln Thr Gln Ser Asp Val Thr  
 100 105 110

Glu Ser Asn Lys Glu Asp Asn Asp Tyr Ser Asp Glu Glu Leu Val Asp  
 115 120 125

Lys Leu Asp Leu Asp  
 130

<210> 142  
 <211> 100  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 142

Met Val Asn Val Asp Asn Ala Pro Glu Glu Lys Gly Gln Ala Tyr Thr  
 1 5 10 15  
 Glu Met Leu Gln Leu Phe Asn Lys Leu Ile Gln Trp Asn Pro Ala Tyr  
 20 25 30  
 Thr Phe Asp Asn Ala Ile Asn Leu Leu Ser Ala Cys Gln Gln Leu Leu  
 35 40 45  
 Leu Asn Tyr Asn Ser Ser Val Val Gln Phe Leu Asn Asp Glu Leu Asn  
 50 55 60  
 Asn Glu Thr Lys Pro Glu Ser Ile Leu Ser Tyr Ile Ala Gly Asp Asp  
 65 70 75 80  
 Pro Ile Glu Gln Trp Asn Met His Lys Gly Phe Tyr Glu Thr Tyr Asn  
 85 90 95  
 Val Tyr Val Phe  
 100

<210> 143  
 <211> 65  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 143

Met Glu Asn Glu Thr Lys Asn Ile Glu Leu Lys His Val Phe Arg Phe  
 1 5 10 15  
 Lys Asn Gly Ser Leu Cys Ile Ala Leu Phe Asp Arg Thr Glu Asn Glu  
 20 25 30  
 Ile Ser Phe Tyr Asp Val Asp Ile Asp Glu Ile Glu Asp Leu Asn His  
 35 40 45  
 Asn Ser Val Leu Arg Val Ile Ser Thr Leu Leu Gly Ser Asp Asn Asn  
 50 55 60  
 Gly  
 65

<210> 144  
 <211> 60  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 144

Met Tyr Glu Gly Asn Asn Met Arg Ser Met Met Gly Thr Ser Tyr Glu  
 1 5 10 15

Asp Ser Arg Leu Asn Lys Arg Thr Glu Leu Asn Glu Asn Met Ser Ile  
 20 25 30

Asp Thr Asn Lys Ser Glu Asp Ser Tyr Gly Val Gln Ile His Ser Leu  
 35 40 45

Ser Lys Gln Ser Phe Thr Gly Asp Val Glu Glu Glu  
 50 55 60

<210> 145  
 <211> 49  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 145

Met Lys Thr Cys Gln Leu Ile Gln Ile Lys Val Lys Ile Val Met Val  
 1 5 10 15

Tyr Lys Phe Ile His Phe Gln Asn Asn His Leu Gln Val Thr Leu Arg  
 20 25 30

Arg Asn Asn Lys Leu Trp His Asn Asn Leu Gln Lys Met Lys Leu His  
 35 40 45

Phe

<210> 146  
 <211> 43  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 146

Met Ile Val Leu Lys Val Asn Glu Phe Val His His Asn Tyr Leu His  
 1 5 10 15

Phe Tyr Leu Tyr Gln Leu Thr Cys Phe His Leu Ile Leu Phe Val Tyr  
 20 25 30

Leu Ile Leu Asn Leu His Met Met Tyr Pro Ser  
 35 40

<210> 147  
 <211> 36  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD  
 <400> 147

Met Phe Ser Phe Asn Ser Val Arg Leu Phe Asn Leu Glu Ser Ser Tyr  
 1 5 10 15

Asp Val Pro Ile Ile Glu Arg Met Leu Phe Pro Ser Tyr Met Phe Lys  
 20 25 30

Phe Leu Leu Ile  
 35

<210> 148  
 <211> 53  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 148  
 gatcccggtc gaccaagctt tacccatacg acgtcccaga ctacgccagc tga 53

<210> 149  
 <211> 53  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 149  
 agcttcagct ggcgtagtct gggacgtcgt atgggtaaag cttgggtcgac cgg 53

<210> 150  
 <211> 21  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 150  
 aattctcgag taaaataaca t 21

[illegible]

37

27

27

24

24

27

27

26

26

<210> 156  
 <211> 10  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 156  
 gcgtcgaccg 10

<210> 157  
 <211> 20  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 157  
 tattatccaa aacttgaaca 20

<210> 158  
 <211> 20  
 <212> DNA  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 158  
 cggtggtata tccagtgatt 20

<210> 159  
 <211> 133  
 <212> PRT  
 <213> Staphylococcus aureus Bacteriophage 44 AHJD

<400> 159

Met Lys Ile Lys Val Lys Lys Glu Met Arg Leu Asp Glu Leu Ile Lys  
 1 5 10 15

Trp Ala Arg Glu Asn Pro Asp Leu Ser Gln Cys Lys Ile Phe Phe Ser  
 20 25 30

Thr Gly Phe Ser Asp Gly Phe Val Arg Phe His Pro Asn Thr Asn Lys  
 35 40 45

Cys Ser Thr Ser Ser Phe Ile Pro Ile Asp Ile Pro Phe Ile Val Asp  
 50 55 60

Ile Glu Lys Glu Val Thr Glu Glu Thr Lys Val Asp Arg Leu Ile Glu  
 65 70 75 80

Leu Phe Glu Ile Gln Glu Gly Asp Tyr Asn Ser Thr Leu Tyr Glu Asn  
 85 90 95

Thr Ser Ile Lys Glu Cys Leu Tyr Gly Arg Cys Val Pro Thr Lys Ala  
100 105 110

Phe Tyr Ile Leu Asn Asp Asp Leu Thr Met Thr Leu Ile Trp Lys Asp  
115 120 125

Gly Glu Leu Leu Val  
130

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- 1. The first part of the document is a list of references. The references are listed in a vertical column on the left side of the page. The references are as follows: